

**CoLAB TalentReady IT Pathways  
Networking KSAs for Curriculum Alignment**

**3. Networking Fundamentals**

	KSA Description	Knowledge, Skill, or Ability?	Bloom's Taxonomy Level?	Cross-cutting KSAs	Notes
a	Explain DNS traffic.	Knowledge	2	Cyber Specialist 10a, Cyber Technologist 10a	
b	Understand OSI model and how it applies to an example.	knowledge	2	Cyber Specialist 10b, Cyber Technologist 10b	
c	Identify the layers of the OSI Model.	Knowledge	2	Cyber Specialist 10c, Cyber Technologist 10c	
d	Summarize the responsibilities of each layer of the OSI Model.	Knowledge	2	Cyber Specialist 10d, Cyber Technologist 10d	
e	Explain how the OSI Model is applied to Networking.	Knowledge	3	Cyber Specialist 10e, Cyber Technologist 10e	
f	Configure IPv4 classful subnets.	Skill	1	Cyber Specialist 10f, Cyber Technologist 10f	
g	Compare public IP addresses and Private IP addresses.	Knowledge	2	Cyber Specialist 10g, Cyber Technologist 10g	
h	Identify IPv4 address network ID (Class A, Class B, Class C).	Knowledge	2	Cyber Specialist 10h, Cyber Technologist 10h	
i	Interpret classless network ID (CIDR block notation).	Knowledge	2	Cyber Specialist 10i, Cyber Technologist 10i	
j	Explain domain naming conventions (UNC path, FQDN, host name).	Knowledge	3	Cyber Specialist 10j, Cyber Technologist 10j	
k	Compare Network Address Translation and Port Address Translation (NAT vs PAT).	Knowledge	2	Cyber Specialist 10k, Cyber Technologist 10k	
l	Draw network diagram.	Skill	3	Cyber Specialist 10l, Cyber Technologist 10l	
m	Analyze the output from networking utilities (e.g. Netstat, Tracert, Traceroute, Ping IPConfig, IFConfig).	Ability	3	Cyber Specialist 10m, Cyber Technologist 10m	
n	Discuss network software integration (client software (e.g. Windows 10 or Ubuntu) and server software).	Ability	3	Cyber Specialist 10n, Cyber Technologist 10n	
o	Discuss network hardware integration (workstations, desktop, mobile devices).	Knowledge	2	Cyber Specialist 10o, Cyber Technologist 10o	
p	Communicate best practices for troubleshooting networking issues (layers 1-2 at HS level) (7-step model).	Knowledge	3	Cyber Specialist 10p, Cyber Technologist 10p	